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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/049,865	03/27/98	WEBER	C 47765/C/JPW/

023914
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HM22/0410

EXAMINER	
DAVIS,M	
ART UNIT	PAPER NUMBER
1642	11

DATE MAILED: 04/10/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/049,865	Applicant(s) Weber et al
	Examiner Minh-Tam Davis	Group Art Unit 1642

☒ Responsive to communication(s) filed on *Jan 16, 2001*.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1, 2, 4-7, 9-14, 16, 17, 20, 23, and 43-47* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1, 2, 4-7, 9-14, 16, 17, 20, 23, and 43-47* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *1 sheet*

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Effective February 7, 1998, the Group Art Unit location has been changed, and the examiner of the application has been changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Minh-Tam Davis, Group Art Unit 1642.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Applicant cancels claims 15, 21, 22.

Accordingly, claims 1-2, 4-7, 9-14, 16-17, 20, 23, 43-47 are being examined.

The following are the remaining rejections.

REJECTION UNDER 35 USC 112, FIRST PARAGRAPH, SCOPE

Rejection under 35 USC 112, first paragraph of claims 1-2, 4-7, 9-14, 16-17, 20, 23, 43-47 pertaining to lack of enablement for a method of inhibiting transplanted cells or tissue from being destroyed by the host immune system, by transplanting the cells or tissues contained in a semipermeable membrane, and treating the host with a substance which inhibits an immune-system costimlation event, remains for reasons already of record in paper No.9.

Applicant argues as follows:

The specification defines an immune-system costimulation event, which is an interaction between an antigen presenting cell (APC) and a T-cell in conjunction with the binding of an MHC-bound antigen on the surface of the APC to the T cell receptor. The specification further

states that immune-system costimulation events include any specific binding of an APC cell-surface molecule (other than an MHC-bound antigen) to a specific ligand on a T cell. The specification provides examples of such specific binding. Moreover, the specification provides three examples of substances which inhibits an immune-system costimulation event: 1) MR1, a monoclonal anti-murine GP39 antibody, which blocks helper T-cell interaction with APCs, 2) CTLA4Ig, and 3) monoclonal antibody GK 1.5, which inhibits CD4+ helper T cells.

Applicant's arguments set forth in paper No.10 have been considered but are not deemed to be persuasive for the following reasons:

The claims as written are not limited to a single costimulation event. Although the specification discloses as examples, three substances that inhibits a specific immune-system costimulation event, MR1, CTLA4Ig, and GK1.5, the specification however discloses that substances which inhibits an immune-system costimulation event include, but not limited to, T cells or APC cell surface-molecule analogs (p.27). As previously disclosed, the specification does not teach how to make the broadly claimed "substance". Thus in light of the specification, and as broadly written, the claims encompass any T cells or APC cell surface-molecule analogs, including analogs of MR1, CTLA4Ig, and GK1.5, the function of which is questionable, in view of the teaching of Burgess et al, Lazar et al, Tao et al, and Gillies et al (of record).

REJECTION UNDER 35 USC 103

Rejection under 35 USC 103 of claims 1-2, 4-7, 9-14, 16-17, 20, 23, 43-47 pertaining to obviousness over Lenschow et al, in view of Goosen et al, Soon-Shong et al, Akalin et al, Linsley et al, Padrid et al and Steurer et al, remains for reasons already of record in paper No.9.

Applicant argues as follows:

To establish obviousness, the Examiner must show that the cited references teach or suggest all the claim limitation, see MPEP 2143. Moreover, the subject invention does not relate to combining two compositions useful for the same purpose. The methods of CTLA4Ig treatment and encapsulation are not for the same purpose. As stated in the specification, the major function of microencapsulation is to prevent host sensitization, rather than to protect grafts from the effector arm of the response.

Further, the results of the invention are unexpected, because treatment with CTLA4Ig prolongs microencapsulated donor rabbit islet xenografts in spontaneously diabetic NODs, when compared to either islet microencapsulation or host CTLA4Ig treatment alone.

In addition, the NOD model of the instant invention is the most appropriate model for islet xenotransplantation, as compared to SZN-diabetic mice, a chemically induced model of diabetes, taught by Lenschow et al.

Applicant's arguments set forth in paper No.10 have been considered but are not deemed to be persuasive for the following reasons:

Soon-Shiong et al clearly teach that microencapsulation protect the transplanted islets from specific cytotoxicity by CTL's and nonspecific killing by NK cells, wherein this type of

cytotoxicity is the most important mechanism by which allografts are destroyed (abstract and p.218, second paragraph). Lenschow et al teach administration of CTLA4Ig to block pancreatic cell rejection. Thus at the time the invention was made, based on the cited references of Lenschow et al and Soon-Shiong et al, one of ordinary skill in the art, not being aware of the disclosure of the claimed invention that the major function of microencapsulation is to prevent host sensitization, would have concluded that both the methods of Lenschow et al and Soon-Shiong et al are for the same purpose of preventing destroying or rejection of the grafted islet. Thus the idea of combining the two methods would have been logical, since each method works by different mechanisms, for the same purpose of inhibiting graft rejection. One of ordinary skill in the art would have expected that combining the two methods taught by Lenschow et al and Soon-Shiong et al would increase the chance of inhibiting graft rejection, because the cited two methods are complementary to each others, and each method works by different mechanisms.

Further, the statement that the claimed NOD model is more appropriate than the SZN-diabetic mouse model taught by Lenschow et al for studying graft rejection is not relevant, because both models were known in the art to be models for diabetes. Further, most of the claims, such as claims 1, 2, 4-7, 16-17, 20, 23, 43-47 are drawn to a method for preventing rejection of cells or tissues transplanted in any subject. Moreover, one of ordinary skill in the art would have expected that the combined methods of preventing graft rejection of the cited reference would be applicable for any cells or tissues transplanted into any subject, and are not necessarily related to the disease of the host.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh-Tam B. Davis whose telephone number is (703) 305-2008. The examiner can normally be reached on Monday-Friday from 9:30am to 3:30pm, except on Wesnesday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tony Caputa, can be reached on (703) 308-3995. The fax phone number for this Group is (703) 308-4227.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0916.

Minh-Tam B. Davis

March 23, 2001

ANTHONY C. CAPUTA
SUPERVISORY PATENT EXAMINER
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